

Serial No. 10/715,540  
Amendment Dated: 1/27/06  
Reply to Office Action Mailed: 9/27/05  
Attorney Docket No. 101867.56513US

**Amendments to the Drawings:**

Attached are two sheets of drawings. The first attached sheet of drawings includes changes to Fig. 2. The second attached sheet of drawings includes new figures 13A and 13B.

Attachment: Replacement Sheet, New Sheet

Annotated Sheet Showing Changes

**REMARKS**

Claims 8-11 have been canceled without prejudice. Claims 1-7 have been amended. Claims 12-37 have been added. Figure 2 has been amended and Figures 13A and 13B have been added. The specification has been amended to explain the figures. No new matter has been added. Support for the amendments can be found throughout the specification and figures, particularly paragraphs [0009], [0030] and [0041] and Figures 6 and 10. Claims 1-7 and 12-24 are presented for further examination in this application.

**Objections to Drawings**

Figure 2 was objected to because that which it shows is old. Applicants have submitted a replacement sheet that includes the label "Prior Art" on Fig. 2. Accordingly, Applicants respectfully request the withdrawal of the objection to Fig.2.

The drawings were also objected to because they do not show all the claimed limitations. Specifically, the Office Action states the drawings fail to show a multiple LED emitter which is claimed in claims 7 and 11.

Applicants respectfully disagree with this objection. One of ordinary skill in the art would readily understand that the LED/EMITTER shown in Fig. 6 could actually contain a number of light emitting diodes. For example, U.S. Patent No. 6,486,499 shows series-interconnected LED under a single dome lens.

Therefore, one of ordinary skill in the art would readily understand that the source of the light rays located under the domed lens in Fig. 6 could actually be multiple series-connected LED. Additionally, Applicants presently present Figs. 13A and 13B which depicts an array of LED formed without a domed lens. No new matter has been introduced by these figures. Support for the new figures can be found in paragraph [0030] of the specification. Accordingly, Applicants respectfully request the withdrawal of the objections to the figures for not showing every feature of the claimed invention.

**35 U.S.C. § 112 Rejections**

Claim 6-11 were rejected under 35 U.S.C. §112, second paragraph, for alleged indefiniteness. Claims 7-11 have been canceled, and claim 6 has been amended to provide proper antecedent basis. Therefore, Applicants respectfully request the withdrawal of the rejection based on 35 U.S.C. § 112, second paragraph.

**35 U.S.C. § 102(b) Rejection Based on Nichols et al.**

Claims 1, 2, and 5-11 stand rejected under 35 U.S.C. 102(b) as being anticipated by Nichols et al., U.S. Patent No. 4,767,172, (hereinafter "Nichols").

The presently claimed invention is drawn towards a dental light guide for use in a dental curing device and towards a dental curing device. Nichols fails to teach or suggest a dental light guide or a dental curing device. Nichols teaches

an integrally molded light collector for use in a photoconductor. Nichols fails to teach or suggest a dental light guide wherein the distal end is sized to project light onto a single tooth of a patient. Therefore, Nichols fails to teach each and every limitation of the claims and cannot anticipate the claimed invention. Accordingly, Applicants respectfully request the withdrawal of the rejection based on Nichols under 35 U.S.C. 102.

**35 U.S.C. § 102(b) Rejection Based on Takahashi**

Claim 3 stands rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi, U.S. Patent No. 4,730,909, (hereinafter "Takahashi").

The presently claimed invention is drawn towards a dental light guide for use in a dental curing device and towards a dental curing device. Takahashi fails to teach or suggest a dental light guide or a dental curing device. Takahashi teaches an arrangement of reflectors and lenses for use in an endoscope. Takahashi fails to teach or suggest a dental light guide wherein the distal end is sized to project light onto a single tooth of a patient. Takahashi also fails to teach a dental light guide comprising a proximal end that comprises a reflector and a lens wherein the reflector and lens are formed of a single continuous homogenous material, as is presently claimed. In Takahashi, reflector 2 and lens L are clearly not formed of a single continuous material as there is a significant airspace between them. Therefore, Takahashi fails to teach each and every limitation of the claims and cannot anticipate the claimed

invention. Accordingly, Applicants respectfully request the withdrawal of the rejection based on Takahashi under 35 U.S.C. 102.

**35 U.S.C. § 103(a) Rejection Based on Takahashi**

Claim 4 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi.

As described above, Takahashi fails to teach or suggest a dental light guide or a dental curing device. Accordingly, Takahashi cannot render the claimed invention obvious. Further, Takahashi fails to teach or suggest forming the reflector 2 and lens L by molding a single glass part. Molding the two parts from a single material would require a whole re-engineering of the design. Further, even if the reflector 2 and lens 3 were molded from a single material, this would still not meet the claimed limitation of a reflector and lens being formed from a single continuous homogeneous material as Takahashi clearly teaches an air space between the lens L and reflector 2. Accordingly, since there is no motivation to form the reflector and lens of Takahashi as a single molded part and since the proposed modification still fails to teach each and every limitation of the claim, the claimed invention cannot be rendered obvious by Takahashi. Reconsideration and withdrawal of the rejection are accordingly respectfully requested.

**Other Cited Art**

Applicants have made a thorough review of all the references cited by the Examiner. However, none of the cited references anticipate or render the claimed invention obvious. In particular, none of the references teach a dental light guide wherein the proximal end of the light guide comprises a reflector and a lens constructed of the same continuous homogeneous material and wherein the distal end is sized to fit inside a patients mouth such that light is projected onto a single tooth.

#### **Newly Added Claims**

Claims 19-32 are patentable over the prior art for many of the same reasons averred for the currently rejected claims. In addition, claims 19-32 include the limitation that the reflecting means of the light guide is concave to the light source while the refracting means is convex to the light source. This geometry provides a greater degree of collimation and focusing compared to the prior art. None of the cited references teach or suggest this geometrical arrangement. Accordingly, applicants respectfully request the timely allowance of these new claims.

Claims 33-37 are also patentable over the prior art. The prior art fails to teach or suggest a dental curing device having a light guide wherein light is projected such that the light focuses at a distance away from the distal end of the light guide. The prior art also fails to teach or suggest a dental curing device having a light guide wherein light is projected such that the light has a high

degree of collimation as it exits the distal end of the light guide and wherein the loss of light intensity from the distal end of the light guide is minimized. The prior art also fails to teach methods of curing dental composites comprising projecting collimated or focused light onto a dental composite.

### CONCLUSION

Applicants believe the present paper to be a complete and thorough response to the Non-Final Office Action. In view of the foregoing amendments and remarks, the application is respectfully submitted to be in condition for allowance. Accordingly, a timely favorable action is earnestly solicited.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #101867.56513US).

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Respectfully submitted,

January 27, 2006

A handwritten signature in black ink, appearing to read 'JWR', is written over a horizontal line.

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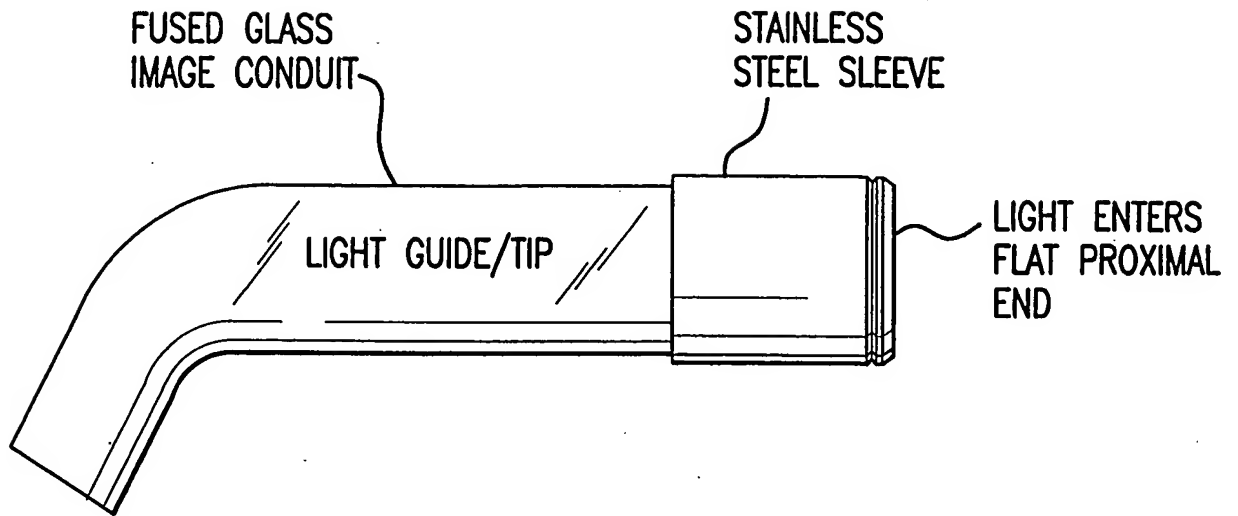
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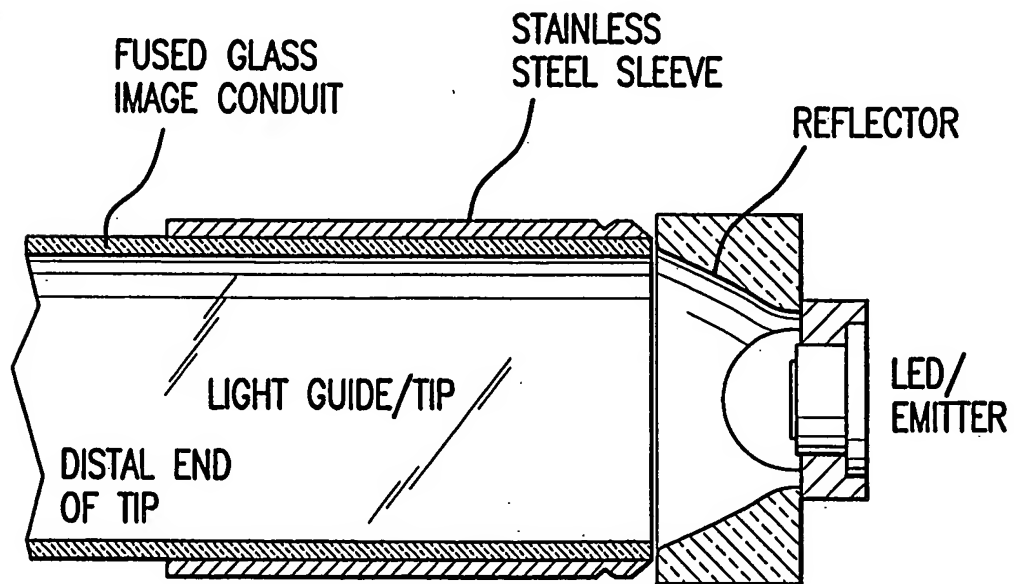
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PRIOR ART REFERENCE: OPTILUX 501

FIG.1



PRIOR ART

FIG.2